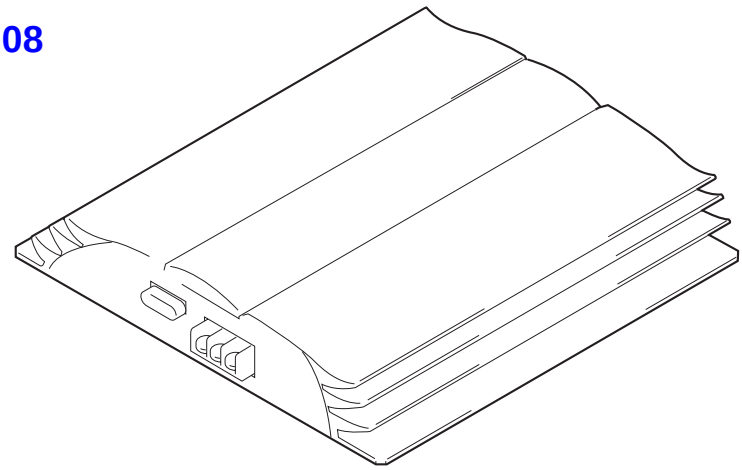
# XM-1002HX

# SERVICE MANUAL

**Ver 1.1 2001. 08**

*US Model*
*Canadian Model*
*AEP Model*
*UK Model*
*E Model*



## SPECIFICATIONS

AUDIO POWER SPECIFICATIONS (US model)
POWER OUTPUT AND TOTAL HARMONIC DISTORTION
100/50 watts per channel minimum continuous average power into 4 ohms, both channels driven from 20 Hz to 20 kHZ with no more than 0.04% total harmonic distortion per Car Audio Ad Hoc Committee standards.

**Other Specifications**

| | |
|---|---|
| Circuit system | OTL (output transformerless) circuit<br>Pulse power supply |
| Inputs | RCA pin jacks<br>High level input connector |
| Outputs | Speaker terminals<br>Through out pin jacks |
| Speaker impedance | 1* – 8 Ω (stereo)<br>2* – 8 Ω (when used as a bridging amplifier) |
| Maximum outputs (HI-CURRENT/HI-VOLTAGE) | 120/230 W x 2 (at 4 Ω)<br>380/580 W (monaural) at 4 Ω |
| Rated outputs (HI-CURRENT/HI-VOLTAGE) (supply voltage at 14.4 V) | 50/100 W x 2 (20 Hz – 20 kHz, 0.04% THD, at 4 Ω)<br>70/140 W x 2 (20 Hz – 20 kHz, 0.1% THD, at 2 Ω)<br>140/280 W (monaural) (20 Hz – 20 kHz, 0.1% THD, at 4 Ω) |
| Frequency response | 5 Hz – 50 kHz ($^{+0.5}_{-3}$ dB) |
| Harmonic distortion | 0.005% or less (at lkHz, 4 Ω) |
| Input level adjustment range | 0.2 – 4.0 V (RCA pin jacks)<br>0.4 – 8.0 V (High level input) |
| High-pass filter | 50 – 200 Hz, –12 dB/oct |
| Low-pass filter | 50 – 200 Hz, –12 dB/oct |
| Low boost | 0 – 10 dB (40 Hz) |
| Power requirements | 12 V DC car battery (negative ground) |
| Power supply voltage | 10.5 – 16 V |
| Current drain | at rated output : 26 A<br>(4 HI-VOL TAGE mode)<br>Remote input : 2 mA |
| Dimensions | Approx. 258 x 50 x 320 mm<br>(10 1/4 x 2 x 12 5/8 in.)<br>(1/h/p) not incl. projecting parts and controls |
| Mass | Approx. 3.3 kg (7 lb, 4 oz.) not incl. accessories |
| Supplied accessories | Mounting screws (4),<br>Terminal cap (1) |

Design and specifications are subject to change without notice.

* HI-CURRENT only

## STEREO POWER AMPLIFIER

**9-925-785-12**
2001H0400-1
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**Sony Corporation**
**e Vehicle Company**
**Shinagawa Tec Service Manual Production Group**

SONY®

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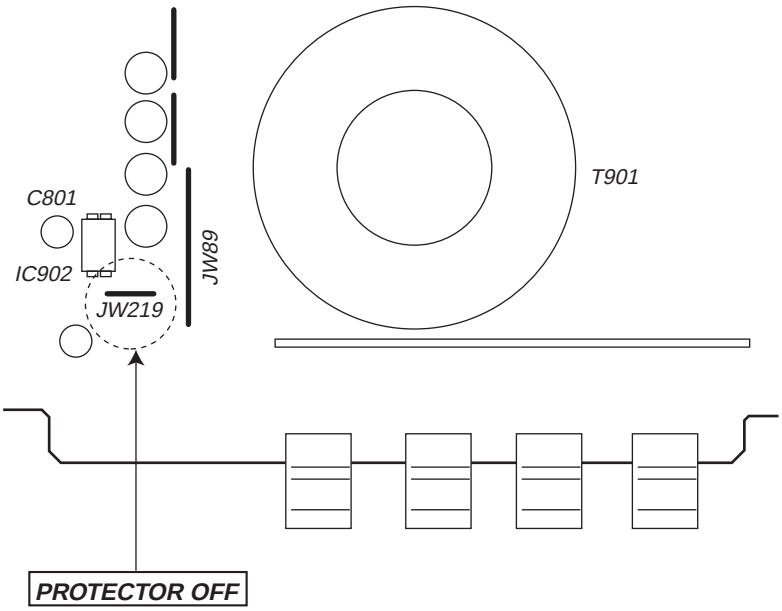
# SECTION 1
# SERVICING NOTE

### CANCELLING THE PROTECTOR DURING SERVICING

Cut JW219 on the amplifier board to cancel the protector.
After servicing always be sure to return JW219 to its original state.



This section is extracted from instruction manual.

# Connections

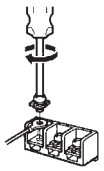
## Caution

- Before making any connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Be sure to use speakers with an adequate power rating. If you use small capacity speakers, they may be damaged.
- Do not connect the ⊖ terminal of the speaker system to the car chassis, and do not connect the ⊖ terminal of the right speaker with that of the left speaker.
- Install the input and output cords away from the power supply lead as running them close together can generate some interference noise.
- This unit is a high powered amplifier. Therefore, it may not perform to its full potential if used with the speaker cords supplied with the car.
- If your car is equipped with a computer system for navigation or some other purpose, do not to remove the ground wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply lead until all the other leads have been connected.

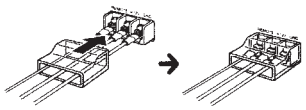
**Make the terminal connections as illustrated below.**

***Note***
*When you tighten the screw, be careful not to apply too much torque* as doing so may damage the screw.*

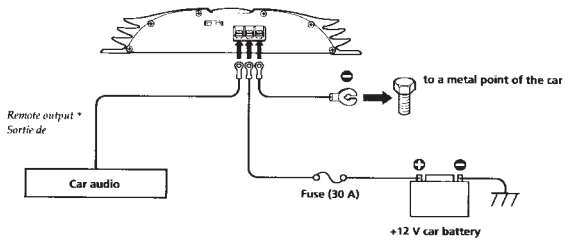
** The torque value should be less than 1 N•m.*



**Pass the leads through the cap, connect the leads, then cover the terminals with the cap.**



### Power Connection Leads

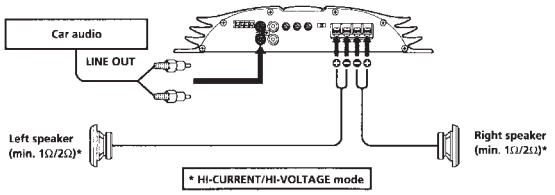



** If you have the factory original or some other car audio without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.*

***Notes on the power supply***

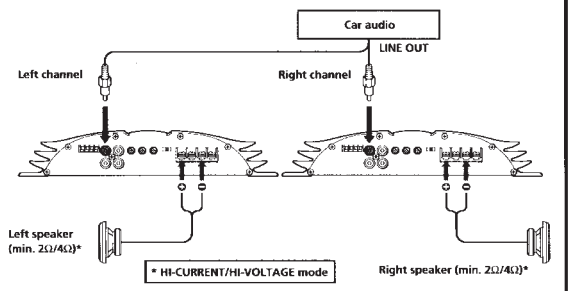
- *Connect the +12 V power supply lead only after all the other leads have been connected.*
- ***Be sure to connect the ground lead of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.***
- *Be sure to connect the remote control lead of the car audio to the remote terminal.*
- *When using a car audio without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.*
- *Use the power supply lead with a fuse attached (30 A).*
- *Place the fuse in the power supply lead as close as possible to the car battery.*
- *Make sure that the leads to be connected to the **+12 V** and **GND** terminals of this unit respectively must be larger than 10 Gauge (AWG-10) or with the sectional area of more than 5 mm².*
- *When using the optional RC-46 power amplifier connecting card, consult that manual for proper use.*

### 2-Speaker System




*For details on the settings of switches and controls, refer to "Location and Function of Controls."*

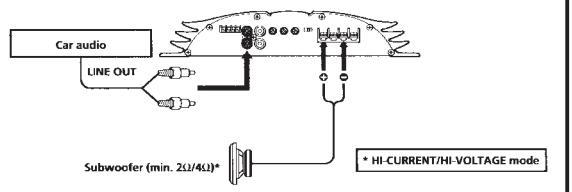
### As a Monaural Amplifier




*For details on the settings of switches and controls, refer to "Location and Function of Controls."*

***Note***
*Make sure that the line output from the car audio is connected to the jack marked "L (MONO)" on the unit.*

### As the Monaural Amplifier for a Subwoofer




*For details on the settings of switches and controls, refer to "Location and Function of Controls."*

***Note***
*If you wish to use a subwoofer as a monaural speaker, connect the speaker as illustrated above. The output signals to the subwoofer will be the combination of the both right and left output signals.*

## Dual Mode System (With a Bridged Subwoofer)

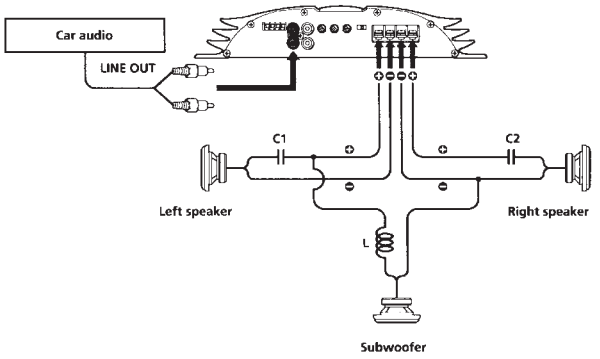



**Table of crossover values for 6 dB/octave (4 ohms)**

| Crossover Frequency unit: Hz | L (coil)* unit: mH | C1/C2 (capacitor)* unit: μF |
|---|---|---|
| 50 | 12.7 | 800 |
| 80 | 8.2 | 500 |
| 100 | 6.2 | 400 |
| 130 | 4.7 | 300 |
| 150 | 4.2 | 270 |
| 200 | 3.3 | 200 |
| 260 | 2.4 | 150 |
| 400 | 1.6 | 100 |
| 600 | 1.0 | 68 |
| 800 | 0.8 | 50 |
| 1000 | 0.6 | 39 |

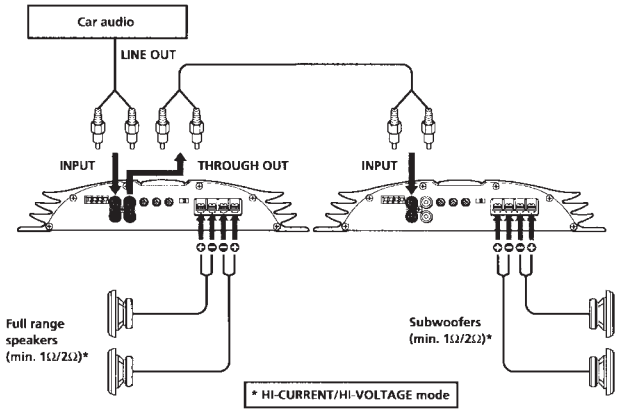
* (not supplied)

***Notes***

- *When using passive crossover networks in a multi-speaker system, care must be taken as the speaker system's impedance should not be lower than that of the suitable impedance for this unit.*
- *When you are installing a 12 decibels/octave system in your car, the following points must be considered. In a 12 decibels/octave system where both a choke and capacitor are used in series to form a circuit, a great care must be taken when they are connected. In such a circuit, there is going to be an increase in the current which by-passes the speaker with frequencies at around the crossover frequency. If audio signals are continued to be fed into the crossover frequency area, it may cause the amplifier to become abnormally hot or the fuse will be blown. Also if the speaker is disconnected, a series-resonant circuit will be formed by the choke and the capacitor. In this case, the impedance in the resonance area will decrease dramatically resulting in a short circuit like situation causing a damage to the amplifier. Therefore, make sure that a speaker is connected to such a circuit at all times.*

## 2-way System

### Two output channels

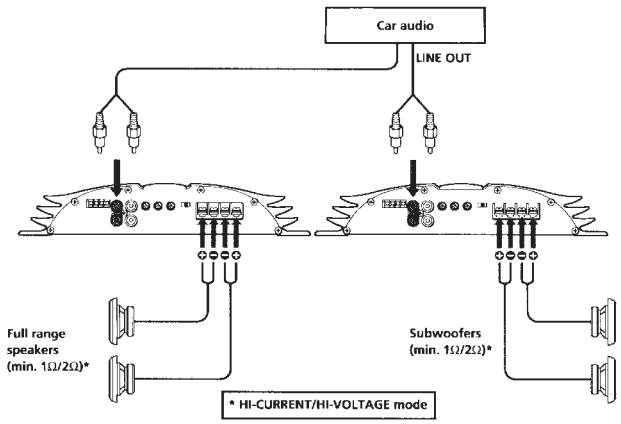



Use the THROUGH OUT terminal when you install more amplifiers. The signals are output as they were input. (LOW BOOST, HPF, LPF do not work.)

***Notes***

- *A maximum 3 amplifiers can be connected to the THROUGH OUT terminal. If you connect more than three amplifiers, it may cause problems such as sound dropout.*
- *High level input connection cannot use THROUGH OUT.*

### Four output channels




*For details on the settings of switches and controls, refer to "Location and Function of Controls."*

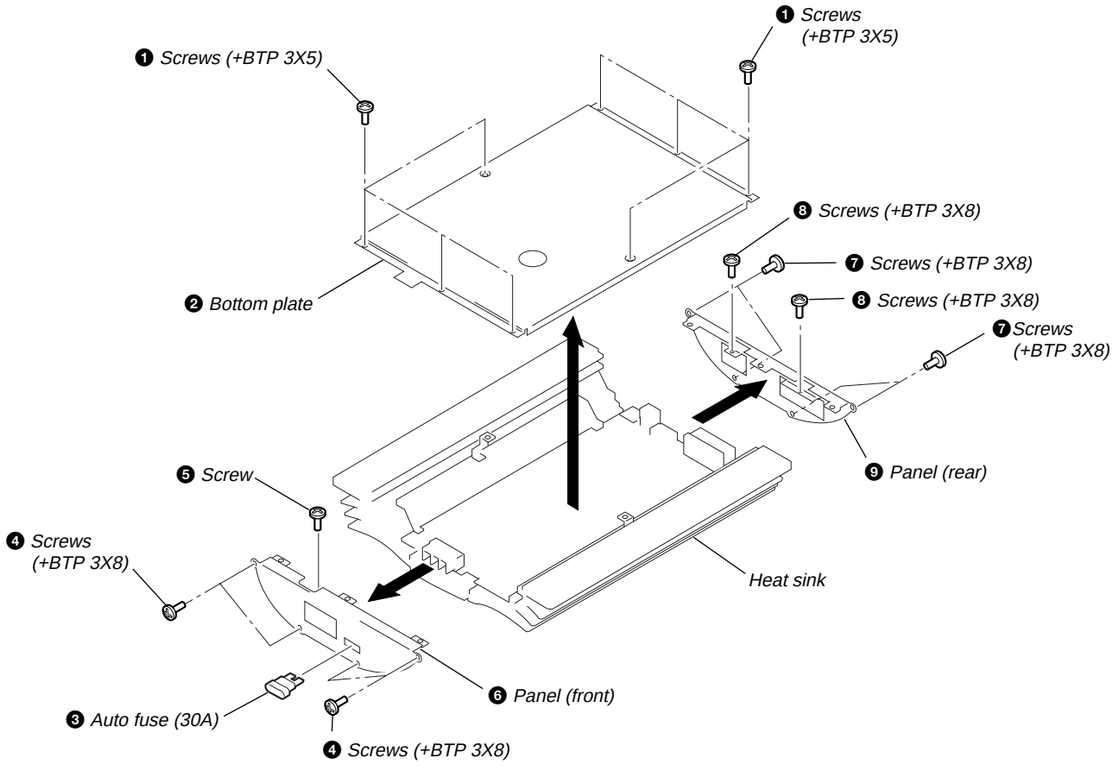
***Note***

*In this system, the volume of the subwoofers will be controlled by the car audio fader control.*

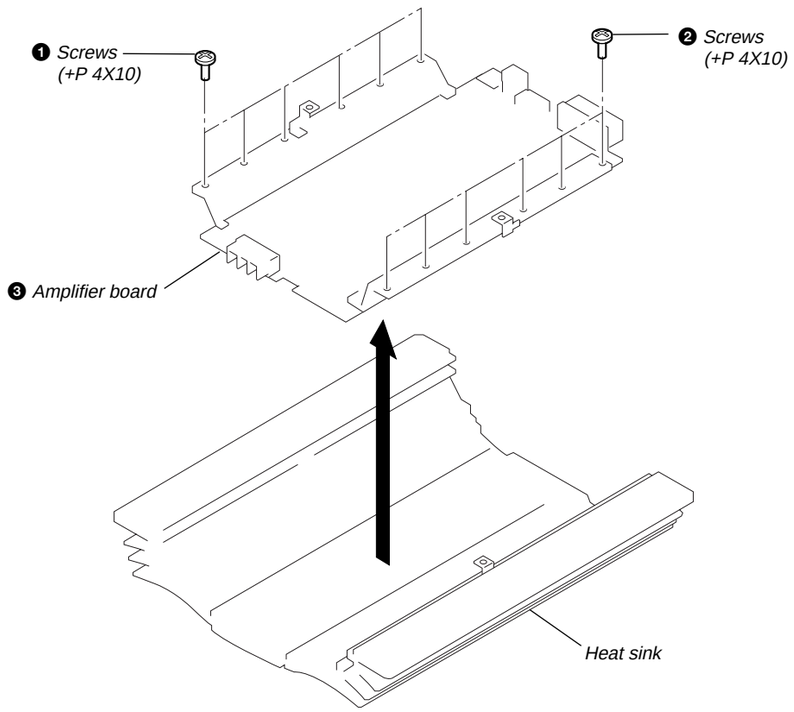
# SECTION 3
# DISASSEMBLY

**Note :** Follow the disassembly procedure in the numerical order given.

### 3-1. BOTTOM PLATE, PANEL (FRONT), PANEL (REAR) REMOVAL




### 3-2. AMPLIFIER BOARD REMOVAL






# SECTION 4
# ELECTRICAL ADJUSTMENT

**Bias Adjustment**

**Procedure :**

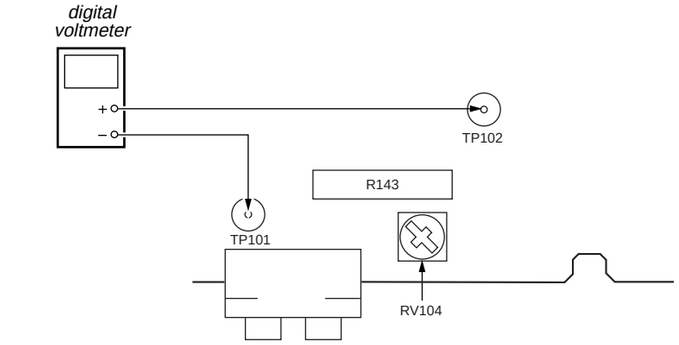
1. Rotare semi-fixed resistors RV104 and RV204 fully counter-clockwise as viewed from the component side
2. No signal is entered, as input signal.
3. Apply the source voltage 14.4V between +12V, REMOTE and GND terminals.
4. Adjust the RV104 (L-CH) and RV204 (R-CH) so that the digital voltmeter reading becomes the adjustment limits below.

**Adjustment Limits** : 3 ± 0.3mV

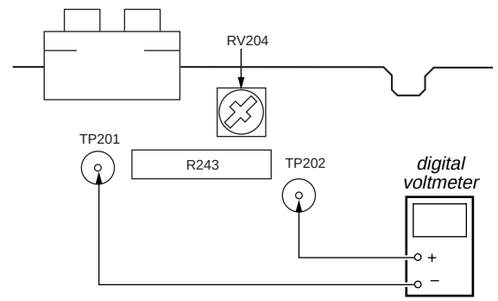
**Adjustment Location :**

**[AMPLIFIER BOARD]** (Component side)

**– L-CH –**

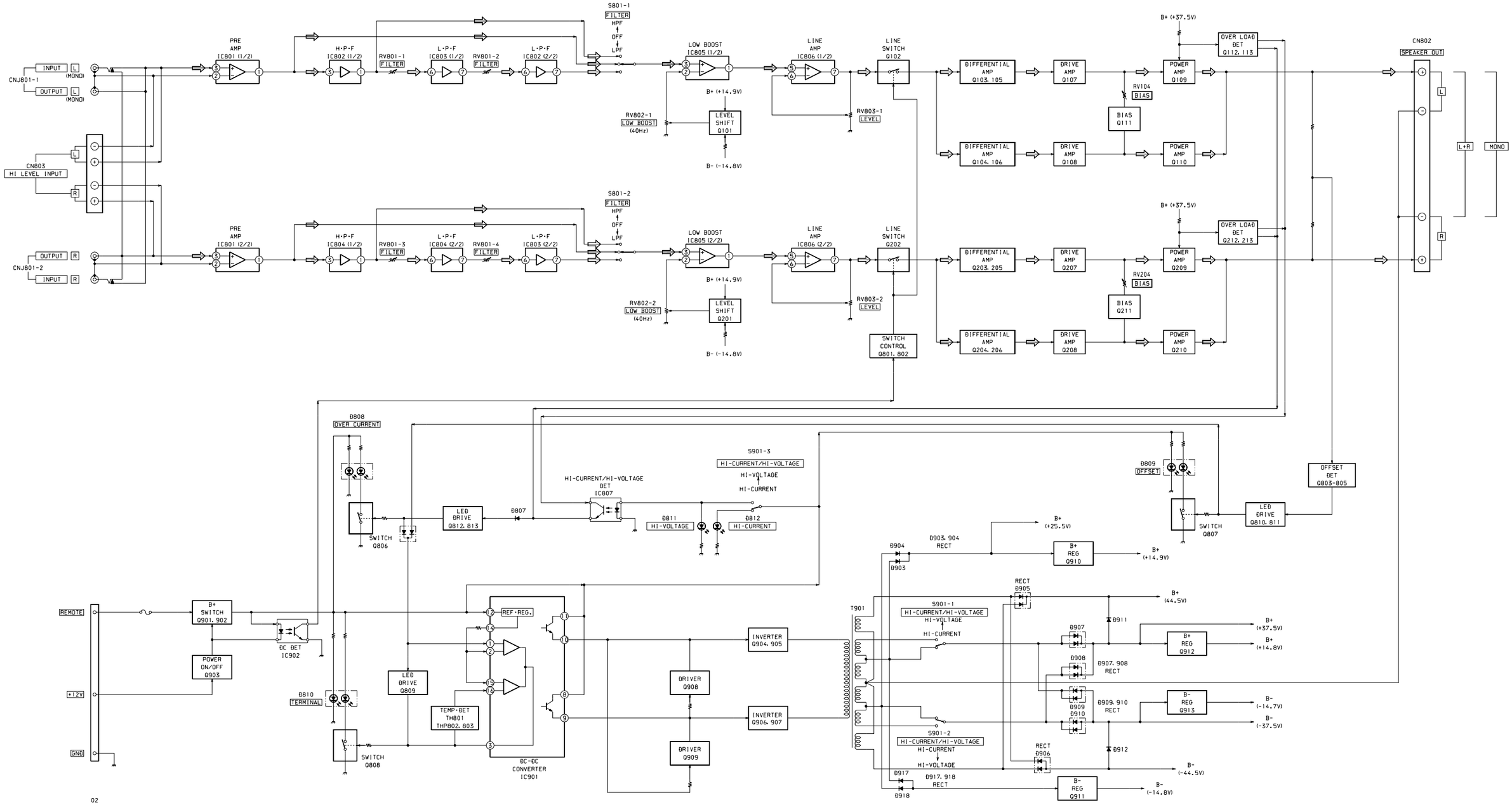



**– R-CH –**



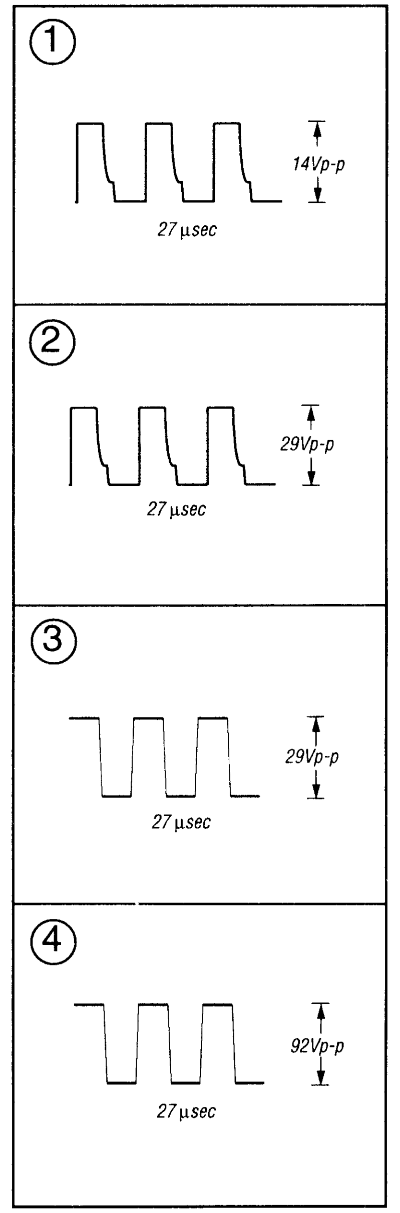
# SECTION 5
# DIAGRAMS

## 5-1. BLOCK DIAGRAM




• Signal path.
⇨

- **WAVEFORMS**

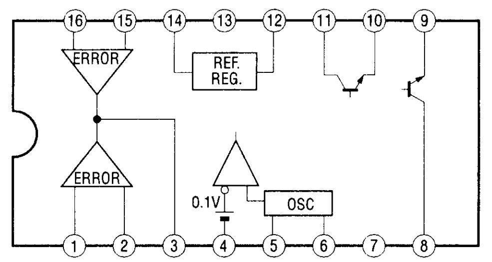



- **SEMICONDUCTOR LOCATION**

| Ref. No. | Location | Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|---|---|
| D801 | G-11 | IC802 | E-18 | Q210 | A-14 |
| D802 | G-10 | IC803 | E-17 | Q211 | A-15 |
| D803 | I-10 | IC804 | D-17 | Q212 | B-13 |
| D804 | C-3 | IC805 | G-18 | | |
| D805 | B-3 | | | Q213 | B-13 |
| | | IC806 | G-19 | Q801 | H-11 |
| D807 | H-12 | IC807 | G-12 | Q802 | G-11 |
| D808 | E-11 | IC901 | B-3 | Q803 | J-16 |
| D809 | E-13 | IC902 | H-10 | Q804 | J-17 |
| D810 | E-14 | | | | |
| D811 | E-10 | | | Q805 | I-16 |
| D812 | E-9 | Q101 | F-17 | Q806 | F-11 |
| | | Q102 | F-14 | Q807 | F-12 |
| D901 | C-3 | Q103 | G-14 | Q808 | E-15 |
| D902 | C-2 | Q104 | G-14 | Q809 | E-14 |
| D903 | G-9 | Q105 | G-14 | | |
| D904 | G-9 | | | Q810 | I-11 |
| D905 | H-9 | Q106 | G-14 | Q811 | H-11 |
| | | Q107 | G-14 | Q812 | I-10 |
| D906 | G-9 | Q108 | G-14 | Q813 | H-10 |
| D907 | A-5 | Q109 | J-15 | Q901 | B-2 |
| D908 | A-6 | Q110 | J-14 | | |
| D909 | A-7 | | | Q902 | C-2 |
| D910 | A-8 | Q111 | J-15 | Q903 | E-2 |
| | | Q112 | I-13 | Q904 | J-7 |
| D911 | D-12 | Q113 | I-13 | Q905 | J-8 |
| D912 | E-12 | Q201 | G-17 | Q906 | J-5 |
| D913 | F-10 | Q202 | E-14 | | |
| D914 | F-10 | | | Q907 | J-6 |
| D915 | E-10 | Q203 | D-14 | Q908 | I-9 |
| | | Q204 | D-14 | Q909 | I-8 |
| D916 | E-10 | Q205 | D-14 | Q910 | G-10 |
| D917 | F-9 | Q206 | D-14 | Q911 | F-10 |
| D918 | F-9 | Q207 | D-14 | | |
| | | | | Q912 | E-11 |
| | | Q208 | D-14 | Q913 | E-11 |
| IC801 | H-18 | Q209 | A-15 | | |

- **IC BLOCK DIAGRAM**

**IC901 µPC494GS**



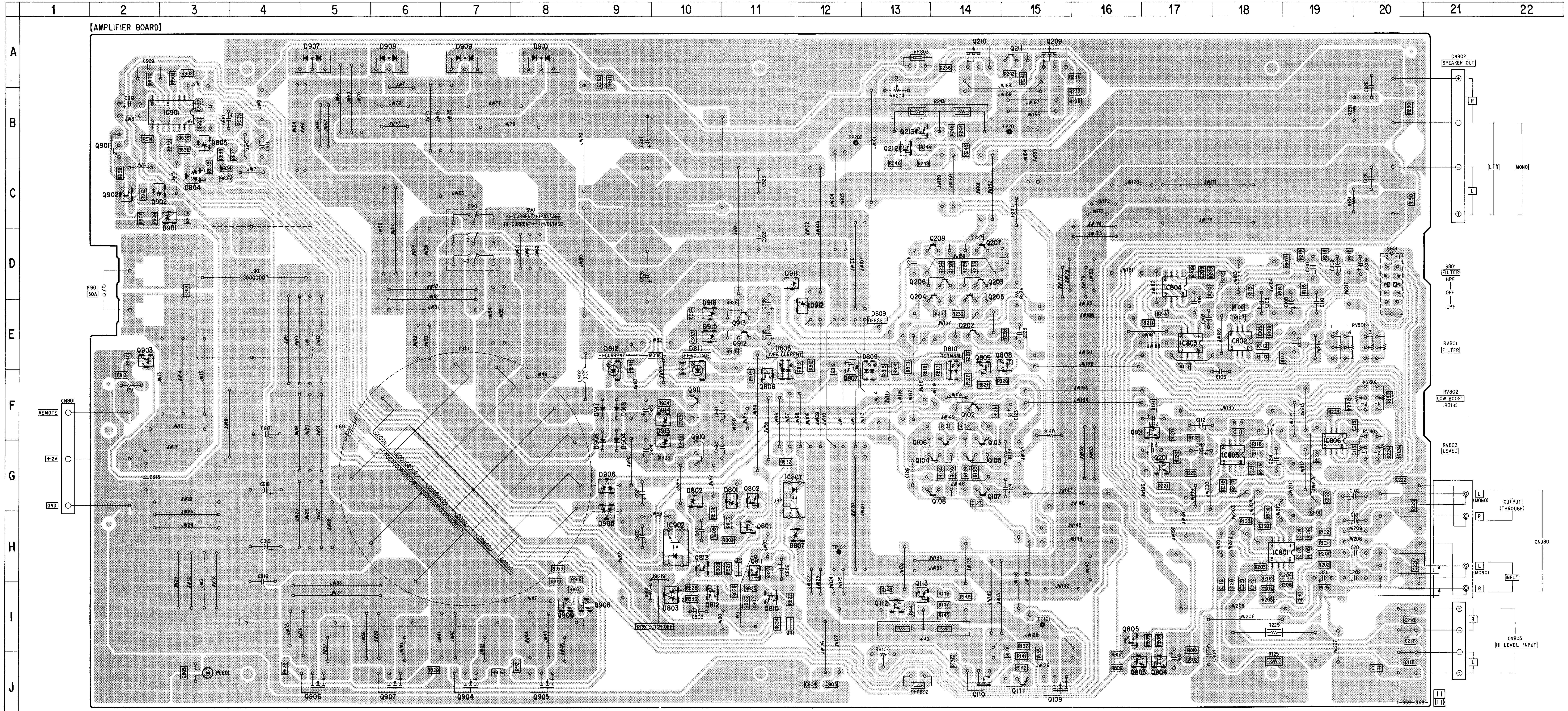

**Note on Printed Wiring Boards:**

**Note:**
- o——— : parts extracted from the component side.
- ░░░ : Pattern from the side which enables seeing.

**Note on Schematic Diagram:**

**Note:**
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- [B+] : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from REMOTE and +12V terminals.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path. ⇨

## 5-2. PRINTED WIRING BOARDS

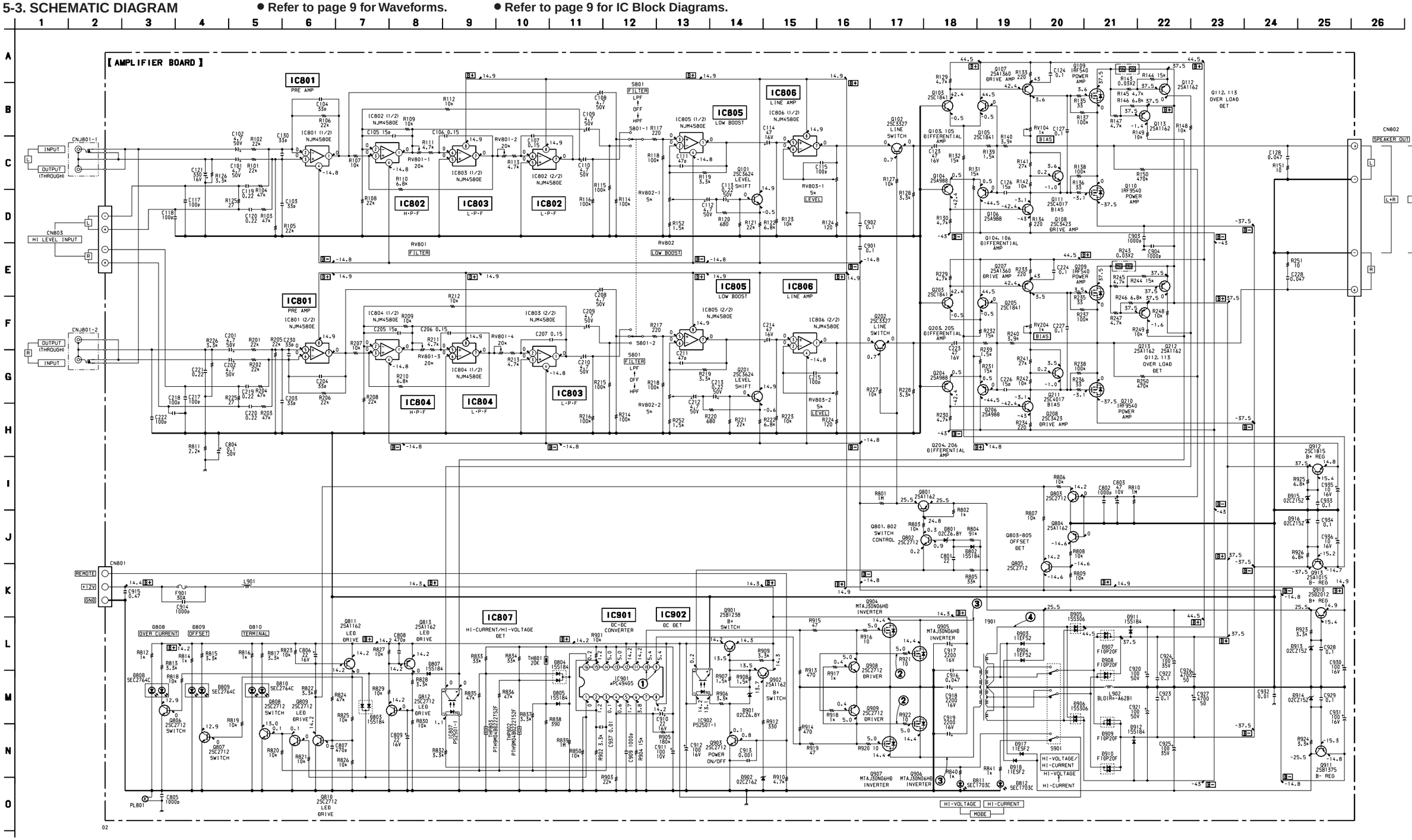



SEE ADDITIONAL INFORMATION

## 5-3. SCHEMATIC DIAGRAM

● Refer to page 9 for Waveforms.

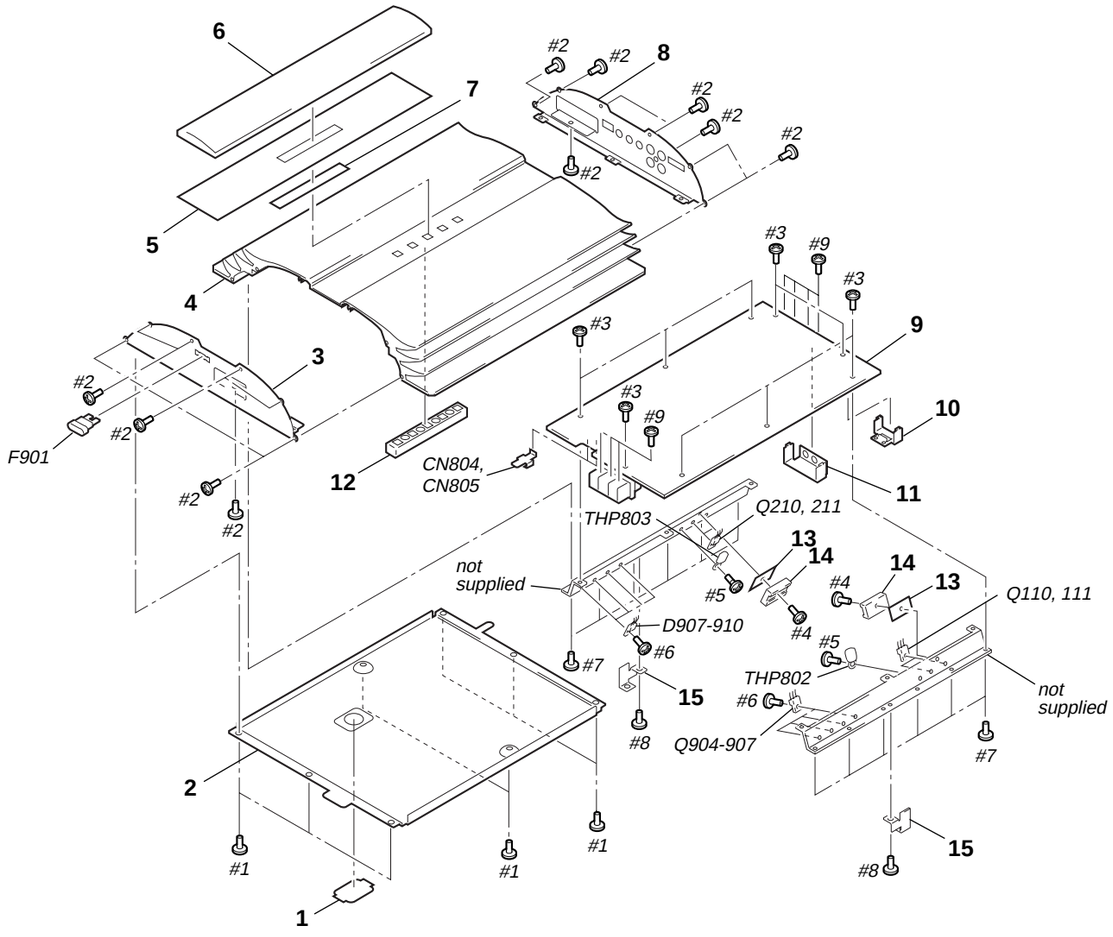
● Refer to page 9 for IC Block Diagrams.



# SECTION 6
# EXPLODED VIEW

NOTE :

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.




| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 3-023-803-01 | COVER | |
| * 2 | 3-023-796-01 | PLATE, BOTTOM | |
| * 3 | 3-023-129-01 | PANEL, FRONT | |
| * 4 | 3-023-801-01 | HEAT SINK | |
| * 5 | 3-025-082-01 | SHEET (DOUBLE-FACE) | |
| * 6 | 3-023-797-01 | PLATE, ORNAMENTAL | |
| * 7 | 3-023-804-01 | SHEET, DIFFUSION | |
| * 8 | 3-023-130-01 | PANEL, REAR | |
| * 9 | A-3313-748-A | AMPLIFIER BOARD, COMPLETE | |
| * 10 | 3-023-799-01 | BRACKET (HIGH LEVEL) | |
| * 11 | 3-023-798-01 | BRACKET (VR) | |
| * 12 | 3-025-083-01 | RUBBER, LIGHT INTERCEPTION | |
| * 13 | 3-025-081-01 | SHEET (INSULATING) | |
| * 14 | 3-936-982-01 | PLATE (TR), RETAINER | |
| * 15 | 3-023-800-01 | BRACKET (BOTTOM PLATE) | |
| CN804 | 1-537-479-11 | TERMINAL | |
| CN805 | 1-537-479-11 | TERMINAL | |
| D907 | 8-719-210-30 | DIODE F10P20F(R) | |
| D908 | 8-719-210-30 | DIODE F10P20F(R) | |
| D909 | 8-719-210-30 | DIODE F10P20F(R) | |
| D910 | 8-719-210-30 | DIODE F10P20F(R) | |
| F901 | 1-532-947-11 | FUSE (BLADE TYPE) (AUTO FUSE) (30A) | |
| Q110 | 8-729-038-01 | TRANSISTOR IRF9540(H) | |
| Q111 | 8-729-954-51 | TRANSISTOR 2SC1545 | |
| Q210 | 8-729-038-01 | TRANSISTOR IRF9540(H) | |
| Q211 | 8-729-954-51 | TRANSISTOR 2SC1545 | |
| Q904 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD | |
| Q905 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD | |
| Q906 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD | |
| Q907 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD | |
| THP802 | 1-809-664-51 | THERMISTOR, POSITIVE | |
| THP803 | 1-809-664-51 | THERMISTOR, POSITIVE | |



# AMPLIFIER

# SECTION 7
# ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ , for example :
  uA.... : µ A.... , uPA.... : µ PA....
  uPB.... : µ PB.... , uPC.... : µ PC....
  uPD.... : µ PD....
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  G : German

When indicating parts by reference number, please include the board.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| * | A-3313-748-A | AMPLIFIER BOARD, COMPLETE | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C102 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C103 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C104 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C105 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C106 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C107 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C108 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C109 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C110 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C111 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C112 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C113 | 1-126-957-11 | ELECT | 0.22uF | 20% | 50V |
| C114 | 1-126-008-11 | ELECT | 47uF | 20% | 16V |
| C115 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C117 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C118 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C119 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C120 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C121 | 1-104-661-11 | ELECT | 330uF | 20% | 16V |
| C123 | 1-126-008-11 | ELECT | 47uF | 20% | 16V |
| C124 | 1-104-999-11 | MYLAR | 0.1uF | 10% | 200V |
| C126 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C127 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C128 | 1-106-383-00 | MYLAR | 0.047uF | 5% | 200V |
| C130 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C201 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C202 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C203 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C204 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C205 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C206 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C207 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C208 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C209 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C210 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C211 | 1-163-243-11 | CERAMIC CHIP | 47PF | 5% | 50V |
| C212 | 1-126-047-11 | ELECT | 4.7uF | 20% | 50V |
| C213 | 1-126-957-11 | ELECT | 0.22uF | 20% | 50V |
| C214 | 1-126-008-51 | ELECT | 47uF | 20% | 16V |
| C215 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C217 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C218 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C219 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C220 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C221 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V |
| C222 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C223 | 1-126-008-11 | ELECT | 47uF | 20% | 16V |
| C224 | 1-104-999-11 | MYLAR | 0.1uF | 10% | 200V |
| C226 | 1-102-951-00 | CERAMIC | 15PF | 5% | 50V |
| C227 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C228 | 1-106-383-00 | MYLAR | 0.047uF | 5% | 200V |
| C230 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C801 | 1-124-282-00 | ELECT | 22uF | 20% | 16V |
| C802 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C803 | 1-126-967-11 | ELECT | 47uF | 20% | 10V |
| C804 | 1-126-956-11 | ELECT | 0.1uF | 20% | 50V |
| C805 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C806 | 1-128-551-11 | ELECT | 22uF | 20% | 25V |
| C807 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C808 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C809 | 1-128-551-11 | ELECT | 22uF | 20% | 25V |
| C901 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C902 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C903 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C904 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C909 | 1-106-343-00 | MYLAR | 1000PF | 5% | 200V |
| C910 | 1-128-551-11 | ELECT | 22uF | 20% | 25V |
| C911 | 1-126-933-11 | ELECT | 100uF | 20% | 10V |
| C912 | 1-126-933-11 | ELECT | 100uF | 20% | 16V |
| C913 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C914 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C915 | 1-136-173-00 | FILM | 0.47uF | 5% | 50V |
| C916 | 1-106-383-00 | MYLAR | 0.047uF | 5% | 200V |
| C917 | 1-111-044-11 | ELECT | 2200uF | 20% | 16V |
| C918 | 1-111-044-11 | ELECT | 2200uF | 20% | 16V |
| C919 | 1-111-044-11 | ELECT | 2200uF | 20% | 16V |
| C920 | 1-126-052-11 | ELECT | 100uF | 20% | 50V |
| C921 | 1-126-052-11 | ELECT | 100uF | 20% | 50V |
| C922 | 1-104-999-11 | MYLAR | 0.1uF | 10% | 200V |
| C923 | 1-104-999-11 | MYLAR | 0.1uF | 10% | 200V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C924 | 1-126-052-11 | ELECT | 100uF | 20% | 35V |
| C925 | 1-126-052-11 | ELECT | 100uF | 20% | 35V |
| C926 | 1-119-761-11 | ELECT | 4700uF | 20% | 50V |
| C927 | 1-119-761-11 | ELECT | 4700uF | 20% | 50V |
| C928 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C929 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C930 | 1-126-009-11 | ELECT | 100uF | 20% | 16V |
| C931 | 1-126-009-11 | ELECT | 100uF | 20% | 16V |
| C932 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C933 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C934 | 1-165-319-11 | CERAMIC CHIP | 0.1uF | | 50V |
| C935 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C936 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C937 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| | | < CONNECTOR > | | | |
| CN801 | 1-537-477-21 | TERMINAL BOARD (3P) (REMOTE, +12V, GND) | | | |
| CN802 | 1-537-478-21 | TERMINAL BOARD (4P) (SPEAKER OUT) | | | |
| CN803 | 1-784-904-11 | CONNECTOR 4P (HI LEVEL INPUT) | | | |
| CN804 | 1-537-479-11 | TERMINAL | | | |
| CN805 | 1-537-479-11 | TERMINAL | | | |
| | | < JACK > | | | |
| CNJ801 | 1-779-078-51 | JACK, PIN 4P (OUTPUT THROUGH, INPUT) | | | |
| | | < DIODE > | | | |
| D801 | 8-719-025-34 | DIODE 02CZ6.8-TE85L | | | |
| D802 | 8-719-801-78 | DIODE 1SS184 | | | |
| D803 | 8-719-801-78 | DIODE 1SS184 | | | |
| D804 | 8-719-801-78 | DIODE 1SS184 | | | |
| D805 | 8-719-801-78 | DIODE 1SS184 | | | |
| D807 | 8-719-801-78 | DIODE 1SS184 | | | |
| D808 | 8-719-070-01 | LED SEC2764C (OVER CURRENT) | | | |
| D809 | 8-719-070-01 | LED SEC2764C (OFFSET) | | | |
| D810 | 8-719-070-01 | LED SEC2764C (TERMINAL) | | | |
| D811 | 8-719-070-01 | LED SEC2764C (MODE HI-VOLTAGE) | | | |
| D812 | 8-719-070-01 | LED SEC2764C (MODE HI-CURRENT) | | | |
| D901 | 8-719-025-34 | DIODE 02CZ6.8-TE85L | | | |
| D902 | 8-719-025-50 | DIODE 02CZ16-TE85L | | | |
| D903 | 8-719-987-67 | DIODE 11EFS2 | | | |
| D904 | 8-719-987-67 | DIODE 11EFS2 | | | |
| D905 | 8-719-054-55 | DIODE 1SS306(TE85L) | | | |
| D906 | 8-719-054-55 | DIODE 1SS306(TE85L) | | | |
| D907 | 8-719-210-30 | DIODE F10P20F(R) | | | |
| D908 | 8-719-210-30 | DIODE F10P20F(R) | | | |
| D909 | 8-719-210-30 | DIODE F10P20F(R) | | | |
| D910 | 8-719-210-30 | DIODE F10P20F(R) | | | |
| D911 | 8-719-801-78 | DIODE 1SS184 | | | |
| D912 | 8-719-801-78 | DIODE 1SS184 | | | |
| D913 | 8-719-025-49 | DIODE 02CZ15-TE85L | | | |
| D914 | 8-719-025-49 | DIODE 02CZ15-TE85L | | | |
| D915 | 8-719-025-49 | DIODE 02CZ15-TE85L | | | |
| D916 | 8-719-025-49 | DIODE 02CZ15-TE85L | | | |
| D917 | 8-719-987-67 | DIODE 11EFS2 | | | |
| D918 | 8-719-987-67 | DIODE 11EFS2 | | | |
| | | < IC > | | | |
| IC801 | 8-759-711-82 | IC NJM4580E | | | |
| IC802 | 8-759-711-82 | IC NJM4580E | | | |
| IC803 | 8-759-711-82 | IC NJM4580E | | | |
| IC804 | 8-759-711-82 | IC NJM4580E | | | |
| IC805 | 8-759-711-82 | IC NJM4580E | | | |
| IC806 | 8-759-711-82 | IC NJM4580E | | | |
| IC807 | 8-719-156-72 | PHOTO COUPLER PS2501-1KA | | | |
| IC901 | 8-759-144-88 | IC UPC494GS | | | |
| IC902 | 8-719-156-72 | PHOTO COUPLER PS2501-1KA | | | |
| | | < JUMPER RESISTOR > | | | |
| JR1 | 1-216-296-00 | CONDUCTOR, CHIP | | | |
| JR2 | 1-216-295-00 | CONDUCTOR, CHIP | | | |
| JR3 | 1-216-295-00 | CONDUCTOR, CHIP | | | |
| | | < COIL > | | | |
| L901 | 1-419-851-11 | INDUCTOR 50uH | | | |
| L902 | 1-410-396-71 | INDUCTOR 0.45uH | | | |
| | | < PILOT LAMP > | | | |
| PL801 | 1-518-540-00 | LAMP , PILOT | | | |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-422-29 | TRANSISTOR 2SD601A-S | | | |
| Q102 | 8-729-203-48 | TRANSISTOR 2SC3327-A | | | |
| Q103 | 8-729-184-53 | TRANSISTOR 2SC1845-EA | | | |
| Q104 | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA | | | |
| Q105 | 8-729-184-53 | TRANSISTOR 2SC1845-EA | | | |
| Q106 | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA | | | |
| Q107 | 8-729-209-18 | TRANSISTOR 2SA1360-Y | | | |
| Q108 | 8-729-203-45 | TRANSISTOR 2SC3423-O | | | |
| Q109 | 8-729-038-52 | TRANSISTOR IRF540(H) | | | |
| Q110 | 8-729-038-01 | TRANSISTOR IRF9540(H) | | | |
| Q111 | 8-729-954-51 | TRANSISTOR 2SC1545 | | | |
| Q112 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q113 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q201 | 8-729-422-29 | TRANSISTOR 2SD601A-S | | | |
| Q202 | 8-729-203-48 | TRANSISTOR 2SC3327-A | | | |
| Q203 | 8-729-184-53 | TRANSISTOR 2SC1845-EA | | | |
| Q204 | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA | | | |
| Q205 | 8-729-184-53 | TRANSISTOR 2SC1845-EA | | | |
| Q206 | 8-729-140-82 | TRANSISTOR 2SA988-PAFAEA | | | |
| Q207 | 8-729-209-18 | TRANSISTOR 2SA1360-Y | | | |
| Q208 | 8-729-203-45 | TRANSISTOR 2SC3423-O | | | |
| Q209 | 8-729-038-52 | TRANSISTOR IRF540(H) | | | |
| Q210 | 8-729-038-01 | TRANSISTOR IRF9540(H) | | | |
| Q211 | 8-729-954-51 | TRANSISTOR 2SC1545 | | | |
| Q212 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q213 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q801 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q802 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q803 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q804 | 8-729-216-21 | TRANSISTOR 2SA1162-Y | | | |
| Q805 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q806 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q807 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q808 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |
| Q809 | 8-729-230-49 | TRANSISTOR 2SC2712-YG | | | |

## AMPLIFIER

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| Q810 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q811 | 8-729-216-21 | TRANSISTOR | 2SA1162-Y | | |
| Q812 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q813 | 8-729-216-21 | TRANSISTOR | 2SA1162-Y | | |
| Q901 | 8-729-041-38 | TRANSISTOR | 2SB1241TV2Q | | |
| Q902 | 8-729-216-21 | TRANSISTOR | 2SA1162-Y | | |
| Q903 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q904 | 8-729-030-73 | TRANSISTOR | MTAJ30N06HD | | |
| Q905 | 8-729-030-73 | TRANSISTOR | MTAJ30N06HD | | |
| Q906 | 8-729-030-73 | TRANSISTOR | MTAJ30N06HD | | |
| Q907 | 8-729-030-73 | TRANSISTOR | MTAJ30N06HD | | |
| Q908 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q909 | 8-729-230-49 | TRANSISTOR | 2SC2712-YG | | |
| Q910 | 8-729-209-15 | TRANSISTOR | 2SD2012 | | |
| Q911 | 8-729-141-83 | TRANSISTOR | 2SB1094-LK | | |
| Q912 | 8-729-119-78 | TRANSISTOR | 2SC403SP-51 | | |
| Q913 | 8-729-173-38 | TRANSISTOR | 2SA733-K | | |
| | | < RESISTOR > | | | |
| R101 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R102 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R103 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R104 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R105 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R106 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R107 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R108 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R109 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R110 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R111 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R112 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R113 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R114 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R115 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R116 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R117 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R118 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R119 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R120 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R121 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R122 | 1-208-506-11 | RES,CHIP | 6.8K | 2% | 1/8W |
| R123 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R124 | 1-208-760-11 | RES,CHIP | 120 | 2% | 1/10W |
| R125 | 1-216-471-11 | METAL OXIDE | 27 | 5% | 3W F |
| R126 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R127 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R128 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R129 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R130 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R131 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R132 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R133 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R134 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R135 | 1-208-401-11 | RES,CHIP | 33 | 2% | 1/8W |
| R136 | 1-208-401-11 | RES,CHIP | 33 | 2% | 1/8W |
| R137 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R138 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R139 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R140 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R141 | 1-216-685-11 | METAL CHIP | 27K | 0.5% | 1/10W |
| R142 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R143 | 1-240-179-11 | METAL PLATE | 0.03X2 | 5W | |
| R144 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R145 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R146 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R147 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R148 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R149 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R150 | 1-208-550-11 | RES,CHIP | 470K | 2% | 1/10W |
| R151 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W |
| R152 | 1-216-202-00 | RES,CHIP | 1.5K | 2% | 1/8W |
| R201 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R202 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R203 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R204 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R205 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R206 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R207 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R208 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R209 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R210 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R211 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R212 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R213 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R214 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R215 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R216 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R217 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R218 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R219 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R220 | 1-216-647-11 | METAL CHIP | 680 | 0.5% | 1/10W |
| R221 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R222 | 1-208-506-11 | RES,CHIP | 6.8K | 2% | 1/8W |
| R223 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R224 | 1-208-760-11 | RES,CHIP | 120 | 2% | 1/10W |
| R225 | 1-216-471-11 | METAL OXIDE | 27 | 5% | 3W F |
| R226 | 1-208-437-11 | RES,CHIP | 1K | 2% | 1/10W |
| R227 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R228 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R229 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R230 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R231 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R232 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R233 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R234 | 1-216-635-11 | METAL CHIP | 220 | 0.5% | 1/10W |
| R235 | 1-208-401-11 | RES,CHIP | 33 | 2% | 1/8W |
| R236 | 1-208-401-11 | RES,CHIP | 33 | 2% | 1/8W |
| R237 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R238 | 1-208-534-11 | RES,CHIP | 100K | 2% | 1/10W |
| R239 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R240 | 1-249-424-11 | CARBON | 3.9K | 5% | 1/4W |
| R241 | 1-216-685-11 | METAL CHIP | 27K | 0.5% | 1/10W |
| R242 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R243 | 1-240-179-11 | METAL PLATE | 0.03X2 | 5W | |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| R244 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R245 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R246 | 1-216-671-11 | METAL CHIP | 6.8K | 0.5% | 1/10W |
| R247 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R248 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R249 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R250 | 1-208-550-11 | RES,CHIP | 470K | 2% | 1/10W |
| R251 | 1-215-857-11 | METAL OXIDE | 10 | 5% | 1W |
| R252 | 1-216-202-00 | RES,CHIP | 1.5K | 2% | 1/8W |
| R801 | 1-208-558-11 | RES,CHIP | 1M | 2% | 1/10W |
| R802 | 1-208-437-11 | RES,CHIP | 1K | 2% | 1/10W |
| R803 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R804 | 1-216-698-11 | METAL CHIP | 91K | 0.5% | 1/10W |
| R805 | 1-208-522-11 | RES,CHIP | 33K | 2% | 1/10W |
| R806 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R807 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R808 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R809 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R810 | 1-208-558-11 | RES,CHIP | 1M | 2% | 1/10W |
| R811 | 1-208-494-11 | RES,CHIP | 2.2K | 2% | 1/8W |
| R812 | 1-208-486-11 | RES,CHIP | 1K | 2% | 1/8W |
| R813 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R814 | 1-208-486-11 | RES,CHIP | 1K | 2% | 1/8W |
| R815 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R816 | 1-208-486-11 | RES,CHIP | 1K | 2% | 1/8W |
| R817 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R818 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R819 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R820 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R821 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R822 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R823 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R824 | 1-216-238-00 | RES,CHIP | 47K | 2% | 1/8W |
| R825 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R826 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R827 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R828 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R829 | 1-208-510-11 | RES,CHIP | 10K | 2% | 1/8W |
| R830 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R832 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R833 | 1-208-522-11 | RES,CHIP | 33K | 2% | 1/10W |
| R834 | 1-208-522-11 | RES,CHIP | 33K | 2% | 1/10W |
| R835 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R836 | 1-208-526-11 | RES,CHIP | 47K | 2% | 1/10W |
| R837 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R838 | 1-208-772-11 | RES,CHIP | 390 | 2% | 1/10W |
| R839 | 1-208-558-11 | RES,CHIP | 1M | 2% | 1/10W |
| R840 | 1-208-486-11 | RES,CHIP | 1K | 2% | 1/8W |
| R841 | 1-208-486-11 | RES,CHIP | 1K | 2% | 1/8W |
| R850 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R901 | 1-208-462-11 | RES,CHIP | 10K | 2% | 1/10W |
| R902 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R903 | 1-208-518-11 | RES,CHIP | 22K | 2% | 1/10W |
| R904 | 1-208-810-11 | RES,CHIP | 15K | 2% | 1/10W |
| R905 | 1-216-103-00 | METAL CHIP | 180K | 5% | 1/10W |
| R906 | 1-216-210-00 | RES,CHIP | 3.3K | 2% | 1/8W |
| R907 | 1-216-202-00 | RES,CHIP | 1.5K | 2% | 1/8W |
| R908 | 1-216-202-00 | RES,CHIP | 1.5K | 2% | 1/8W |
| R909 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R910 | 1-208-453-11 | RES,CHIP | 4.7K | 2% | 1/10W |
| R911 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R912 | 1-208-474-11 | RES,CHIP | 330 | 2% | 1/8W |
| R913 | 1-208-478-11 | RES,CHIP | 470 | 2% | 1/8W |
| R914 | 1-208-478-11 | RES,CHIP | 470 | 2% | 1/8W |
| R915 | 1-208-405-11 | RES,CHIP | 47 | 2% | 1/8W |
| R916 | 1-216-150-00 | RES,CHIP | 10 | 2% | 1/8W |
| R917 | 1-208-437-11 | RES,CHIP | 1K | 2% | 1/10W |
| R918 | 1-208-437-11 | RES,CHIP | 1K | 2% | 1/10W |
| R919 | 1-208-405-11 | RES,CHIP | 47 | 2% | 1/8W |
| R920 | 1-216-150-00 | RES,CHIP | 10 | 2% | 1/8W |
| R921 | 1-216-150-00 | RES,CHIP | 10 | 2% | 1/8W |
| R922 | 1-216-150-00 | RES,CHIP | 10 | 2% | 1/8W |
| R923 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R924 | 1-208-449-11 | RES,CHIP | 3.3K | 2% | 1/10W |
| R925 | 1-208-506-11 | RES,CHIP | 6.8K | 2% | 1/8W |
| R926 | 1-208-506-11 | RES,CHIP | 6.8K | 2% | 1/8W |

< VARIABLE RESISTOR >

| | | |
|---|---|---|
| RV104 | 1-241-761-11 | RES, ADJ, CARBON 1K (BIAS) |
| RV204 | 1-241-761-11 | RES, ADJ, CARBON 1K (BIAS) |
| RV801 | 1-225-647-11 | RES, VAR 20K/20K/20K/20K (FILTER) |
| RV802 | 1-225-648-11 | RES, VAR 5K/5K (LOW BOOST) |
| RV803 | 1-225-648-11 | RES, VAR 5K/5K (LEVEL) |

< SWITCH >

| | | |
|---|---|---|
| S801 | 1-572-185-11 | SWITCH, SLIDE (FILTER) |
| S901 | 1-771-387-11 | SWITCH, TOGGLE (HI-CURRENT/HI-VOLTAGE) |

< TRANSFORMER >

| | | |
|---|---|---|
| T901 | 1-431-882-11 | TRANSFORMER, DC-DC CONVERTER |

< TRANSFORMER >

| | | |
|---|---|---|
| TH801 | 1-808-877-11 | THERMISTOR |
| THP802 | 1-809-664-51 | THERMISTOR, POSITIVE |
| THP803 | 1-809-664-51 | THERMISTOR, POSITIVE |

**********

MISCELLANEOUS

**********

| | | |
|---|---|---|
| CN804 | 1-537-479-11 | TERMINAL |
| CN805 | 1-537-479-11 | TERMINAL |
| D907 | 8-719-210-30 | DIODE F10P20F(R) |
| D908 | 8-719-210-30 | DIODE F10P20F(R) |
| D909 | 8-719-210-30 | DIODE F10P20F(R) |
| D910 | 8-719-210-30 | DIODE F10P20F(R) |
| F901 | 1-532-947-11 | FUSE (BLADE TYPE) (AUTO FUSE) (30A) |
| Q109 | 8-729-038-52 | TRANSISTOR IRF540(H) |
| Q110 | 8-729-038-01 | TRANSISTOR IRF9540(H) |
| Q209 | 8-729-038-52 | TRANSISTOR IRF540(H) |
| Q210 | 8-729-038-01 | TRANSISTOR IRF9540(H) |
| Q904 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD |
| Q905 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD |
| Q906 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD |
| Q907 | 8-729-030-73 | TRANSISTOR MTAJ30N06HD |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| THP802 | 1-809-664-51 | THERMISTOR, POSITIVE | |
| THP803 | 1-809-664-51 | THERMISTOR, POSITIVE | |

**********

ACCESSORIES & PACKING MATERIALS
**********

| | | | |
|---|---|---|---|
| | 3-013-264-01 | COVER, 3P TERMINAL TABLE | |
| | 3-367-410-01 | SCREW (DIA. 5X15), TAPPING | |
| | 3-701-639-00 | BAG, POLYETHYLENE | |
| | 3-862-334-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH) | (AEP,UK,E) |
| | 3-862-334-21 | MANUAL, INSTRUCTION (GERMAN, ITALIAN) | (AEP,UK,G,E) |
| | 3-862-334-31 | MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) | (AEP,UK,E) |
| | 3-862-334-41 | MANUAL, INSTRUCTION (DUTCH, SWEDISH) | (AEP,UK,E) |
| | 3-862-334-51 | MANUAL, INSTRUCTION (RUSSIAN,GREEK) | (AEP,UK,E) |
| | 3-862-334-61 | MANUAL, INSTRUCTION (ENGLISH,FRENCH) | (US,Canadian) |

**********

**********
HARDWARE LIST
**********

| | | | |
|---|---|---|---|
| #1 | 7-685-544-14 | SCREW +BTP 3X5 TYPE2 N-S | |
| #2 | 7-685-546-19 | SCREW +BTP 3X8 TYPE2 N-S | |
| #3 | 7-685-646-79 | SCREW +P 3X8 TYPE2 N-S | |
| #4 | 7-685-649-79 | SCREW +P 3X14 TYPE2 N-S | |
| #5 | 7-685-144-11 | SCREW +P 3X5 TYPE2 N-S | |
| #6 | 7-682-949-01 | SCREW +PSW 3X10 | |
| #7 | 7-685-660-79 | SCREW +P 4X10 TYPE2 N-S | |
| #8 | 7-685-645-79 | SCREW +P 3X6 TYPE2 N-S | |
| #9 | 3-912-431-11 | SCREW M 4X8 (P) | |

# XM-1002HX

SONY

# SERVICE MANUAL

*US Model*
*Canadian Model*
*AEP Model*
*UK Model*
*E Model*

# SUPPLEMENT-1

**File this supplement with the service manual.**

**Subject:**
**Red Color Panal Addition**

(ECN-CS804006)

The difference parts are described in this service manual supplement-1.
Please refer to XM-1002HX service manual previously issued for the other information.

**• DIFFERENCE PARTS LIST**

| Page | Former | | | | New | | | |
|---|---|---|---|---|---|---|---|---|
| | Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
| 15 | *3 | 3-023-129-01 | PANEL, FRONT | | *3 | 3-023-129-01 | PANEL, FRONT (BLUE) | |
| | | | | | *3 | 3-023-129-11 | PANEL, FRONT (RED) | |
| | *4 | 3-023-801-01 | HEAT SINK | | *4 | 3-023-801-01 | HEAT SINK (BLUE) | |
| | | | | | *4 | 3-023-801-11 | HEAT SINK (RED) | |
| | *6 | 3-023-797-01 | PLATE, ORNAMENTAL | | *6 | 3-023-797-01 | PLATE, ORNAMENTAL (BLUE) .....(BLUE) | |
| | | | | | *6 | 3-023-797-21 | PLATE, ORNAMENTAL (CLEAR).....(RED) | |
| | *8 | 3-023-130-01 | PANEL, REAR | | *8 | 3-023-130-01 | PANEL, REAR (BLUE) | |
| | | | | | *8 | 3-023-130-11 | PANEL, REAR (RED) | |

NOTE:
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

9-925-785-81

**Sony Corporation**
**Personal & Mobile Communication Company**

99A0478-1
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**Published by Quality Assurance Dept.**

# XM-1002HX

SONY

# SERVICE MANUAL

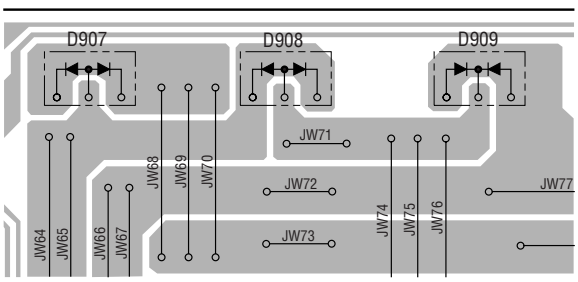
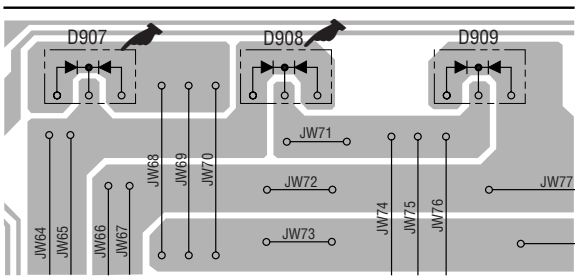
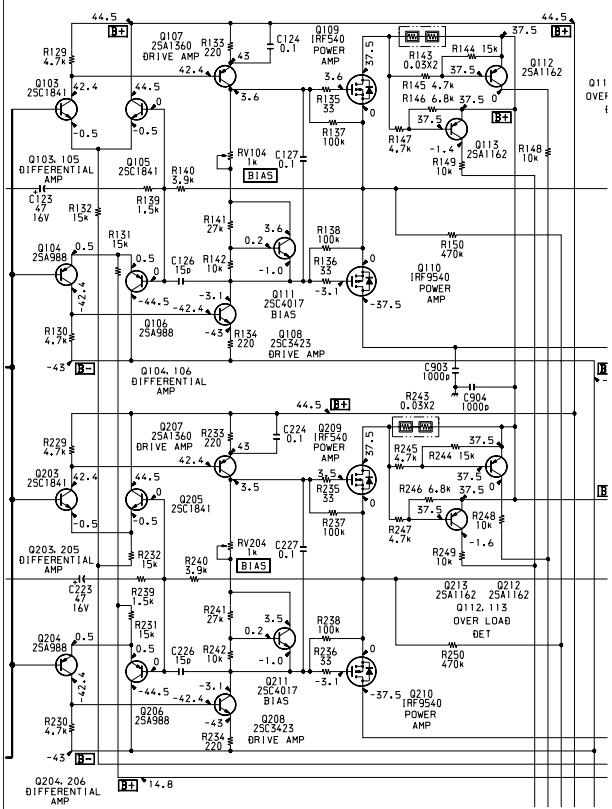
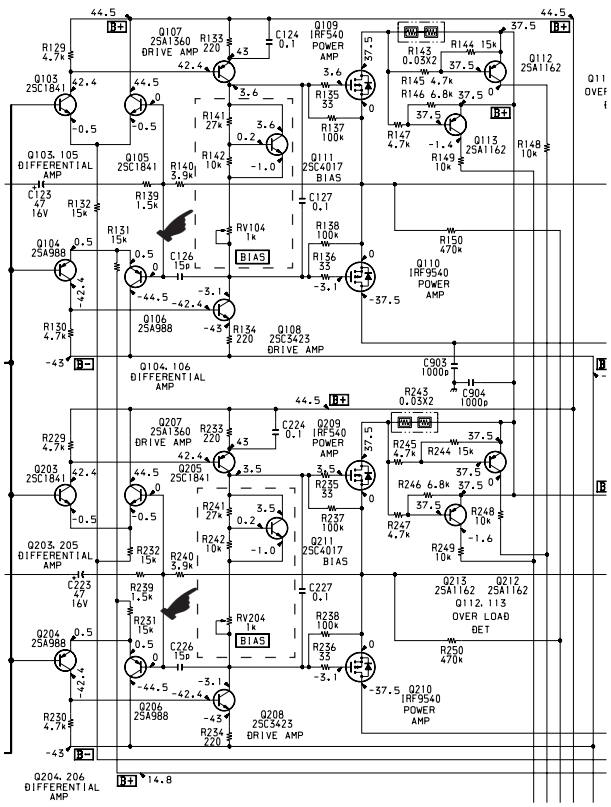
Ver 1.1 2001. 08

*US Model*
*Canadian Model*
*AEP Model*
*UK Model*
*E Model*

## CORRECTION - 1

**Correct your Service Manual as shown below.**

● ☛: Indicates corrected portion

| Page | INCORRECT | CORRECT |
|---|---|---|
| 10 |  |  |
| 14 |  |  |



(SPM-99018)


9-925-785-91

**Sony Corporation**
**Mobile Electronics Company**

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**Published by Quality Assurance Dept.**

## REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper on the revised page allows you to jump to the next revised page.

| Ver. | Date | Description of Revision |
|---|---|---|
| 1.1 | 2001. 08 | The CORRECTION-2 is included into Ver 1.1 |
| 1.0 | 1998. 01 | New |
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